Form PTO-1449 P E 707

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

LIST OF ART CITED BY APPLICANT (Use several sheets if necessary)

ATTORNEY DOCKET NO. MI22-2274

SERIAL NO. 10/806,923

APPLICANT: Weimin Li et al.

FILING DATE March 22, 2004 GROUP ART UNIT

U.S. PATEN	T DOC	UMENTS						
Examiner's Initials		Document Number	Date	Name	Class	Subclass	Filing O	
Aics	*	3,990,927	11/1976	Montier	1.			
	AÐ	4,474,975	10/1984	Clemons et al.				
	AC	5,156,881	10/1992	Okano et al.				
	AD	5,182,221	01/1993	Sato				
	Æ	5,410,176	04/1995	Liou et al. EV372	47	06	87	
	AF	5,470,798	11/1995	Ouellet				
	AG	5,719,085	02/1998	Moon et al.				
	Æ	5,741,740	04/1998	Jang et al.				
Aics	A	5,776,557	07/1998	Okano et al.		\		
				Y				
FOREIGN P	ATENI	DOCUMENTS	Τ	2				
		Document Number	Date	Country	Class	Subclas8	Translation Yes	No
2314	٨	02277253A	11/1990	Japan (Hayashide et al.)				
	AK .	146224	01/1996	Japan				
Aics	AL.	06-334031	12/1994	Japan			Abstract	
	FEREN	CES (including Author,	Title, Date, Pe	ertinent Pages, Etc.)				
			·	Gap Fill and In-Situ Planarisation using Fi	lowfill™ Te	echnology.	Flectrotech	1-7
AKS						-		
		ULSI Con	ference, Portia	and, OR (October 1995).				
	AN	Horie et al., Kir	netics and Med	chanism of the Reactions of O(³ P) with SiH	₄, CH₃SiH	3. (CH3)2SiF	1 ₂ , and	
		(CH₃)₃SiH	1, 95 J. PHYS. C	СНЕМ 4393-4400 (1991).				
A	40	Joshi et al., Pla	asma Deposite	ed Organosilicon Hydride Network Polymer	s as Verse	atile Resists	s for Entirely	Dry
ACS		Mid-Deep	UV Photolitho	ography, 1925 SPIE 709-720 (January 199	3).			
EXAMINER	<u> </u>	DATE CONSIDE	RED	Sarhar	1191	05		

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO. MI22-2274

APPLICANT: Weimin Li et al.

SERIAL NO. 10/806,923

LIST OF ART CITED BY APPLICANT (Use several sheets if necessary)

FILING DATE March 22, 2004

GROUP ART UNIT 2812 28 9 1

Examine Initials	ar's		Docu		Date	•	Name	Class	Subclass	Filing Da	
A(C	9			6,039	07/1998	Brouquet					
71	در	AB	5.80	1,083	09/1998	Yu et al.					
-		AC	<u> </u>	3,827	01/1999	Joyner				-	
-		AD		3,006	03/1999	lba	EV372	47	06	87	
	AE 5,888,880 03		03/1999	Gardner et al.	E 18 6 6 6		/ .				
		AF	<u> </u>	05,253	04/1999	Akram			/		
\dashv		AG	<u> </u>	14,540	05/1999	Sheng et al.		- /			
	-	AH	5,93	30,645	07/1999	Lyons et al.		-/-	•	·	
A(< S ^A 5,943,585 08/1999 May et al.											
FOREIGN PATENT DOCUMENTS Document Date Country Class Subdass Translation											
			Numb	per						Yes	No
AK	2		05-3	315441	11/1993	Japan			 	Abstract	
OTHE	R RE	FEREN	CES (i	including Author,	Title, Date, Pe	ertinent Pages, Etc.)				
_	,	АМ		Kiermasz et al.	Planarisation	for Sub-Micron De	vices Utilising a New C	hemistry,	Electrotech	1-2, DUMIC	
41	2.			Conference	æ, California (February 1995).	 _				
7		W	-	Kojima et al., P	lanarization P	rocess Using a Mul	ti-Coating of Spin-on-G	iass, V-Mi	C Conferer	ce, pp. 390-3	96
				(June 13-	14, 1988).	·····					
		AO	-	Matsuura et al.	A Highly Reli	able Self-planarizin	g Low-k Intermetal Die	ectric for	Sub-quarter	Micron	
AIC	2			Interconne	octs, 97 IEEE	785-788 (July 1997).				
EXAMI	NER	<u>_</u>		DATE CONSIDE	RED			1	``	 -	•
Ason Uman Sarhar 114/05											

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE ATTY. DOCKET NO. SERIAL NO. Form PTO-1449 MI22-2274 10/806,923 LIST OF ART CITED BY APPLICANT (Use several sheets if necessary) APPLICANT: Weimin Li et al. FILING DATE **GROUP ART UNIT** March 22, 2004 2812 2841

		· · · · · · · · · · · · · · · · · · ·					
U.S. PATEN	NT DOC	UMENTS					
Examiner's Initials		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
Aics	M	5,950,094	09/1999	Lin et al.		1	
	AB	5,960;299	09/1999	Yew et al.		7	
	AC	5,972,773	10/1999	Liu et al.			,
	AD	5,998,280	12/1999	Bergemont et al.			•
	AE	6,030,881	02/2000	Papasouliotis et al.			
	AF	6,051,477	04/2000	Nam EV3	12	7 10	687
	AG	6,156,674	12/2000	Li et al.			
·	АН	6,719,012	4/2004	Doan et al.			·
	AI	6,583,028	6/2003 [·]	Doan et al.			
	~	6,300,219 B1	10/2001	Doan et al.			
Aics	AK	5,570,469	6/1998	Uram et al.	1		
FOREIGN F	PATENT	DOCUMENTS					
		Document Number	Date	Country	Class	Subclass .	Translation
	· AL						Yes No
OTHER RE	FEREN	CES (including Author,	Title, Date, Pe	ertinent Pages, Etc.)			
Aics	АМ	Matsuura et al. 120.	, Novel Self-pl	anarizing CVD Oxide for Interlayer Dielec	tric Applica	ations; 1994;	94 IEEE 117-
	AN	McClatchie et a 1999).	al. Low Dielect	ric Constant Flowfill™ Technology for IML	O Application	ons, 7 pages	(pre-August
	${}$						

OTHE	R RE	FEREN	NCES (including Author, Title, Date, Pertinent Pages, Etc.)
Ai	دد	АМ	Matsuura et al., Novel Self-planarizing CVD Oxide for Interlayer Dielectric Applications; 1994; 94 IEEE 117-120.
		A N	McClatchie et al. Low Dielectric Constant Flowfill™ Technology for IMD Applications, 7 pages (pre-August 1999).
A	۲S	40	Withnall et al., Matrix Reactions of Methylsilanes and Oxygen Atoms, 92 J. Phys. CHEM. 594-602 (1988).
	AINER:		DATE CONSIDERED LI 4 05 Treference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not copy of this form with next communication to applicant.

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO. MI22-2274

SERIAL NO. 10/806,923

LIST OF ART CITED BY APPLICANT

(Use several sheets if necessary)

FILING DATE

March 22, 2004

APPLICANT: Weimin Li et al.

GROUP 2812

U.S. P	ATEN	T DOC	UMENTS					
Examin Initial			Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
AK	22	*	5,105,253	04/1992	Pollock	357	49	_
		AB	5,604,149	02/1997	Paoli et al.	437	67	
		AC	5,616,513	04/1997	Shepard	438	402	
		AD	5,786,263	07/1998	Perera	438	431	
		AE	5,895,255	04/1999	Tsuchiaki	438	427	
		AF	5,923,073	07/1999	Aoki et al.	257	501	
		AG	5,981,354	11/1999	Spikes et al.	438	424	
		' AH	5,989,978	11/1999	Peidous	438	436	
AK	2	AJ	6,033,961	03/2000	Xu et al.	438	295	

FOREIGN PATENT DOCUMENTS											
		Document Number	Pâte V	37	247	0.68	37	Class	Subclass	Trans Yes	lation No
	A										

A sc		м	Curtis et al, "APCVD TEOS: O3 Advanced Trench Isolation Applications", Semiconductor Fabtech, 9th Ed.,
AIC 1	ا ک		p. 241 - 247
	Ì	AN	George, S.M. et al., "Atomic layer controlled deposition of SiO ₂ and Al ₂ O ₃ using ABAB binary reaction
			sequence chemistry", Applied Surface Science 82/83, Elsevier Science B.V., July 10, 1994, p. 460-467.
A		AD .	Morishita et al. "Atomic-layer chemical-vapor-deposition of silicon-nitride", Applied Surface Science 112,
M	2		Elsevier Science B.V., 1997, p. 198-204.
EXAMI	NER L	17	DATE CONSIDERED Sarhar 11405

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO. MI22-2274

APPLICANT: Weimin Li et al.

SERIAL NO. 10/806,923

LIST OF ART CITED BY APPLICANT (Use several sheets if necessary)

FILING DATE March 22, 2004

GROUP

2812 2891

*Examiner's Initials		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
AKS	AA	6,090,675	07/2000	Lee et al.	438	301	
	AB	6,171,962	01/2001	Karlsson et al.	438	692	
	AC	6,187,651	02/2001	Oh	438	435	
	AD	6,191,002	02/2001	Koyanagi	438	431	
	Æ	6,326,282	12/2001	Park et al.	438	424	
	AF	6,329,266	11/2001	Hwang et al.	438	424	-
	AG	6,355,966	03/2002	Trivedi	257	499	
AKS	AH	6,583,060	06/2003	Trivedi	438	700	•
	AI						

FOREIGN P	ATENT	DOCUMENTS						
		. Document Number	Date	F1372470	Class	Subclass	Trans	lation No
	N					U		

N 1 c 0	AK	Yokoyama et al. "Atomic layer controlled deposition of silicon nitride and in situ growth observation by infrared
AKS		reflection absorption spectroscopy*, Applied Surface Science 112, Elsevier Science B.V., 1997, p. 75-81.
	۸.	Gasser et al., "Quasi-monolayer deposition of silicon dioxide", Elsevier Science S.A., 1994, p. 213-218.
	AM	Hausmann et al., "Catalytic vapor deposition of highly conformal silica nanolaminates", Department of
		Chemistry and Chemical Biology, Harvard University, May 14, 2002, pp. 1-13.
2	AN	Shareef et al., "Subatmospheric chemical vapor deposition ozone/TEOS process for SiO₂ trench filling",
AKS		J. Vac. Sci. Technol. B 13(4), Jul/Aug 1995, p. 1888-1892.
EXAMINER	A	Sal Maman Sarbar 11/4/05

*EXAMINER: Initial if reference considered, whether or not citation is In conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO. SERIAL NO. MI22-2274 10/806,923

LIST OF ART CITED BY APPLICANT (Use several sheets if necessary)

APPLICANT: Weimin Li et al.

FILING DATE March 22, 2004

GROUP 289 1

U.S. PATE	NT DOC	CUMENTS									
*Examiner's Initials		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate				
AKS	M	6,448,150	09/2002	Tsai et al.	438	427					
	AB	6,617,251	09/2003	Kamath et al.	438	691					
	AC	2001/0006255 A1	07/2001	Kwon et al.	257	751					
	AD	2001/0006839 A1	07/2001	Yeo	438	435					
	AE	2001/0046753 A1	11/2001	Gonzalez et al.	438	424					
	AF	2002/0004284 A1	01/2002	Chen	438	427					
	AG	2004/0082181	04/2004	Doan et al.	•	3					
AICS	АН	10/931,524		Sandhu			08/31/2004				
FOREIGN PATENT DOCUMENTS											
Document Date LV Journ 2470 Oss Tubdass Translation							Translation Yes No				
	A						163				
OTHER RE	FEREN	ICES (including Author	, Title, Date, Pe	ertinent Pages, Etc.)							
A (c 0	٧	Disclosed And	onymous 32246	; "Substrate Contact with Closed Bottom T	renches",	Research D	isclosure, Feb.				
271A		/ 1991, 1 page.									
	AX	Hausmann et	al., Rapid Vapo	or Deposition of Highly Conformal Silica Na	nolamina	tes, 298 SCI	ENCE 402-406				
		(October	11, 2002)								
	AL.	Miller et al., S	elf-limiting cher	mical vapor daposition of an ultra-thin silico	n oxide fil	m using tri-(tert-butoxy)				
		Silanol, 3	Silanol, 397 Thin Soud Films 78-82 (2001).								
	м	Klaus et al., A	tomic Layer De	position of SiO₂ Using Catalyzed and Unca	atalyzed S	elf-Limiting	Surface ·				
AKS		Reaction	s, 6 Surface F	REVIEW AND LETTERS, Nos. 3 and 4, pp. 435	-448 (199	99).					
EXAMINER	ો નિ	DATE CONSIDE	()	inlian 1110	10	5					

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449	9		PATENT AND	MENT OF COMMERCE TRADEMARK OFFICE	ATTY. DOCKE MI22-2274	T NO.		RIAL NO.	
		(Use several sheet:		NT .	APPLICANT:	Weimin M	lichael Li e	nt al.	
					FILING DATE Filed Herewith		GR Uni	oup known 2	891
U.S. PATENT D	ocı	UMENTS							
*Examiner's Initials		Document Number	Date	Name		Class	Subclass		g Date propriate
AICS	M	6,300,219 B1	10/09/01	Doan et al.		1		1	
	AB	6,534,395 B2	03/18/03	Werkhoven et al.					
	AC	10/615,051	,	Vaartstra (as filed)		,		07/07/2	2003
2>1A	AO.	10/655,699		Derderian et al. (as file	d)	7		09/05/	2003
	Æ				_				•
	AF								
,	AG								
,	АН								
	AJ								
FOREIGN PATE	ENT	DOCUMENTS		·					
		Document . Number	Date	Countr	у	Class	SubclasS	Translation	
AKS	AJ.	WO 02/27063 A2	04.04.02	WIPO (Harward Collec	je)			Yes	No .
-	AK		 						
	AL.								
OTHER REFER	RENC	CES (including Author	Title, Date, Pr	ertinent Pages, Etc.)]	l	
				or Deposition of Highly Co	onformal Silica Na	anolamina	tes, 298 S	CIENCE 402	2-406
AISS	<u></u>	(October	11, 2002)					-	<u></u>
D-ICC AN	N	Klaus et al., A	tomic Layer De	eposition of SiO₂ Using Ca	atalyzed and Unca	atalyzed S	Self-Limitin	g Surface	
AICS	r	Reaction	s, 6 SURFACE F	REVIEW AND LETTERS, Nos	. 3 and 4, pp. 435	5-448 (19	99).		
A LC D	•	Miller et al., Se	elf-limiting chei	mical vapor deposition of	an ultra-thin silico	n oxide fi	lm using to	-(tert-butox	 (y)
AKS		Silanol, 3	97 THIN SOLID	FILMS 78-82 (2001).					
EXAMINER A-C-C	_	DATE CONSIDE	ERED.	A A D	11/6/	2 13	0 5		
				on is in conformance with MP	EP 609; Draw line the	hrough cita	tion if not in	conformance	and not

Form PTO-1	1449		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE			ATTY. DOCKET NO. MI22-2274		SERIAL NO. Unknown		
		LIST OF ART CITED (Use several sheets		APPLICANT: Weimin Michael Li et al						
				FILING DATE GROUP Filed Herewith Unknown						
U.S. PATEN	1T DO	CUMENTS								
*Examiner's Initials		Document Number			Class		Subclass	Filing Date If Appropriate		
	*									
	AB									
	AC									
	AD			·						
	ø									
	AF		ļ!							
	AG				<u>/</u>					
	AH	<u></u>						$\overline{}$		
	A				·			_		
FOREIGN F	PATEN	T DOCUMENTS	Date	Country		Class		Translation		
		Document Number	Udib	Country		Class	SubclasS	Yes No		
	٨				$\overline{}$					
-	-AX	1								
	AL									
OTHER RE	FERE	NCES (including Author	, Title, Date, Pe	ertinent Pages, Etc.)						
AICS	АМ	Hausmann et	Hausmann et al., "Catalytic vapor deposition of highly conformal silica nanolaminates", Department of							
		Chemistry and	Chemistry and Chemical Biology, Harvard University, May 14, 2002, pp. 1-13.							
	AN			·		·				
			··							
	AO	·								
			·			····				
EXAMINER A-S	نى ھى	DATE CONSIDE	Sand	Nar	प्रीय) ऽ)5				
*EXAMINER: considered.	Initial i	f reference considered, whoopy of this form with next	ether or not citatic communication to	on is in conformance with MP o applicant.	PEP 609; Draw line t	through citat	tion if not in cor	nformance and not		

Sheet 1 of 2

Form PTO-1449	9	U.S. DE PATEN	EPARTMENT OF C	COMMERCE ARK OFFICE	ATTORN NO. MI22	EY DOCKET 2-2274		SERIAL NO. 10/806,923		
	ST OF ART CITED BY AP (Use several sheets if nec	APPLICANT: Weimin Li et al.								
			FILING D March 22	2, 2004		GROUP ART UNIT				
U.S. PATENT DOCUMENTS										
*Examiner's Initials		Document Number	Date	N	ama	Class	Subclass	Filing Date If Appropriate		
AICS	AA	6,013,583	1/11/2000	Ajmera et al						
	AB	2001/0041250 A1	11/2001	Haukka et a	Haukka et el.					
	AC	2002/0000195 A1	1/2002	Kao et al.	Kao et al.					
	AD	2002/0018849	2/2002	George et a	George et al.					
	AE	2003/0032281 A1	2/13/2003	Werkhoven	et al.					
	AF	2003/00129826 A1	7/10/2003	Werkhoven	et ad.		-	<u> </u>		
	AG	2004/0209484	10/2004	Hill et al.	-					
22IA	AICS AH 2004/0266153 A1		12/30/2004	Yongjun Jeff Hu				<u> </u>	• .	
FOREIGN PAT	TENT D	OCUMENTS				<u> </u>				
		Document Number	Date	Coun	itry	ZasiO	Subclass	Transla	1	
AKS	AI	EP 0817251 A	1/1998	1/1998 EPO				Yes	No	
14172	AJ.	·								
OTHER REFE	RENCE	S (including Author, Title	. Date, Pertinent f	Pages, Etc.)						
	AK		1156; Filed 6/30/20	. 	 ≥port.					
2SIA			·····				······································			
EXAMINER ASSU DATE CONSIDERED Sarwar 11405										
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.										

٠.

Sheet 2 of 2

Form PTO-1449		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE			ATTY, DOCKET N MI22-2274		SERIAL NO. 10/806,923				
		LIST OF ART CITED BY APPLICANT (Use serveral shoets if necessary)			APPLICANT: Weimin Li et al.						
			i			FILING DATE March 22, 2004			GROUP 2812- 289 1		
U.S. PATENT DOCUMENTS											
"Examiner's Initials		Document Oste Name Number		Class		Subclass	Subcless Filing If Appr				
	*										
	AB			The same of the sa			<u> </u>	\bot			
,	AC			<u> </u>		<u> </u>	 	<u>}~</u>			
	AD								<u> </u>		
	Æ					<u> </u>	<u> </u>	<u></u>			
FOREIGN P	ATEN	T DOCUMENTS		T							
	l	Document Number	Date	Country	'	Cinca	Subclass	Yes	dation No		
	AF					7					
·						. :	7	1. * 1			
· · · · · · · · · · · · · · · · · · ·	AH								[
OTHER RE	FERE	NCES (including Author,	. Title, Date, F	Pertinent Pages, Etc.)							
	A)			Induced Ti Silicidation to	Eliminate the Fine-I	Line Effec	at for Integri	ated Circ	uily		
AKS		Device Fabrication, 149 Journal of Electrochemical Society, No. 11, pp. G609-G612 (2002).									
	رم	Nishiyama et al., Agglomeration Resistant Setf-Aligned Silicide Process Using N ₂ Implantation Into TISI ₂ ,									
AKS		36 JPN, J. APPL. PHYS., Part 1, No. 6A, pp. 3639-3643 (June 1997).									
	AK	Wolf, Chapter	13: Polycides	and Salicides of TISIx, (CoSi2, and NiSi, SILI	and NiSi, Silicon Processing for the VLSI Era,					
221A		Vol. IV, pp. 603-604 (pre-2003).									
EXAMINER	A	DATE CONSIDE	ERED	Sarhar		11	1415	<u>.</u> 35_			
"EXAMINER:	tnitial	if reference considered, who	ether or not cite	etion is in conformance with I	MPEP 609; Draw line t	hrough cit	ation if not in	conforman	ice and		